

- 2 -

1. (currently amended) ~~An oriented strand board composite structure~~ A single press OSB panel comprising:

- a first oriented strand face having a layer of wood flakes mixed with a thermoset resin binder, said first oriented strand face defining a plane;
- a second oriented strand face having a layer of wood flakes mixed with a thermoset resin binder; and
- a core material provided between said first oriented strand face and said second oriented strand face, said core material ~~comprising~~ defining voids having boundaries that are essentially orthogonal to said plane defined by said first oriented strand face, said voids extending between said first and second oriented strand faces.

2. (currently amended) ~~A structure according to~~ The panel of claim 37, wherein said core material further comprises inorganic filler in the amount of about 10% to 80% by weight.

3. (currently amended) ~~A structure according to~~ The panel of claim 2, wherein said inorganic filler ~~is~~ comprises one or more of clay, calcium carbonate, and titanium dioxide.

4. (currently amended) ~~A structure according to~~ The panel of claim 37, wherein said perforated mat is perforated such that it ~~comprises between 0% and~~ defines at most 75% voids by volume and wherein said core material further comprises resin binder in an amount of less than 10% by weight.

5. (currently amended) ~~A structure according to~~ The panel of claim 37, wherein said perforated mat is perforated such that it ~~comprises~~ defines between 0% and 50% voids by volume and wherein said core material further comprises resin binder in an amount of less than 5% by weight.

6. (currently amended) ~~A structure according to~~ The panel of claim 37, wherein said perforated mat consists essentially of paper mill sludge.

- 3 -

7. (withdrawn)

8. (withdrawn)

9. (withdrawn)

10. (currently amended) ~~A structure according to~~ The panel of claim 2, wherein said perforated mat comprises one or more of paper mill sludge, recycled paper, vulcanized rubber, thermoset plastics, and volcanic rock.

11. (cancelled)

12. (withdrawn)

13. (withdrawn)

14. (withdrawn)

15. (withdrawn)

16. (withdrawn)

17. (withdrawn)

18. (withdrawn)

19. (withdrawn)

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21. (withdrawn)

- 4 -

22. (withdrawn)

23. (withdrawn)

24. (withdrawn)

25. (withdrawn)

26. (withdrawn)

27. (withdrawn)

28. (withdrawn)

29. (withdrawn)

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31. (withdrawn)

32. (withdrawn)

33. (withdrawn)

34. (withdrawn)

35. (withdrawn)

36. (withdrawn)

- 5 -

37. (currently amended) ~~A structure according to~~ The panel of claim 1, wherein said ~~compression-resistant core material~~ comprises a perforated mat ~~that is oriented such that the~~ having perforation boundaries are essentially orthogonal to the plane defined by said first oriented strand face.

38. (withdrawn)

39. (cancelled)